

DRAFT CHARGING LETTER

Office of Defense Trade Controls
Bureau of Political Military Affairs
U.S. Department of State
Washington, D.C. 20520-0602

Eric J. Zahler
President and
Chief Operating Officer
Loral Space & Communications
600 Third Avenue
New York, N.Y. 10016

Re: Investigation of Space Systems/Loral, Inc. and
the Long March 3B Independent Review Committee,
and other satellite-related matters involving
China

Dear Mr. Zahler:

The Department of State ("Department") charges that Space Systems/Loral ("SS/L") violated the Arms Export Control Act ("Act") and the International Traffic in Arms Regulations ("Regulations") in connection with its conduct in the aftermath of the February 1996 failed launch of a Long March 3B rocket carrying the INTELSAT 708 spacecraft. Sixty-four (64) violations are alleged at this time.

RELEVANT FACTS:

Jurisdictional and License Requirements

(1) Space Systems/Loral, Inc. is a corporation organized under the laws of the State of Delaware.

(2) SS/L is a U.S. person engaged in the business of manufacturing and exporting defense articles and defense services and is so registered with the Department of State,

Office of Defense Trade Controls in accordance with section 38 of the Act and § 122.1 of the Regulations.

(3) SS/L is a U.S. person within the meaning of 22 C.F.R. § 120.15 and, as such, is subject to the jurisdiction of the United States, in particular with regard to the Act and the Regulations.

(4) China Aerospace Corporation ("CASC"), China Great Wall Industry Corporation ("CGWIC"), and China Academy of Launch Vehicle Technology ("CALT") all are foreign persons within the meaning of 22 C.F.R. § 120.16.

Background

(5) On February 11, 1993, the United States and the People's Republic of China ("PRC") signed an international agreement in Beijing entitled "Memorandum of Agreement on Satellite Technology Safeguards Between the Governments of the United States and the People's Republic of China," which entered into force on the date of signature. This agreement specifies the security procedures to be followed for launch of U.S.-manufactured satellites from the territory of the PRC and also expressly prohibits U.S. persons from providing "any assistance" to the PRC relating to the design, development, operation, maintenance, modification, or repair of the launch facility or launch vehicle.¹

(6) On September 18, 1992 in munitions license no. 533593 and on July 14, 1993 in munitions license no. 544724, the Department approved and released to SS/L two license applications presented by SS/L, the first for export to the PRC of technical data in support of an INTELSAT² VIIA satellite launch from the PRC and the second for export of the satellite, itself (subsequently designated "708").

(7) The munitions licenses approved for SS/L were subject to specific terms and conditions, including several that instructed SS/L that it "must":

- a) Conform strictly to the terms of the US-PRC Safeguards Agreement;

¹ The 1993 Agreement superseded upon entry into force a similar US-PRC agreement done at Washington on December 17, 1988, containing the same prohibition.

² International Telecommunications Satellite Organization

- b) Have a Department of Defense (DoD) monitor or representative present in all technical interface meetings with the PRC on the INTELSAT project;
- c) Prepare and have approved in writing by DoD a technology transfer control plan (TTCP) in order to control, among other things, the release of technical know-how in person-to-person interfaces with Chinese as well as with all non-U.S. citizens associated with the INTELSAT project;

and that SS/L must not

- d) Provide "any technical assistance whatsoever" to its Chinese counterparts, which might assist China to design, develop, or enhance the performance of any of its contemplated or existing space launch vehicles, missiles or facilities.

(8) The original draft of the TTCP submitted by SS/L to DoD/DTSA included a provision concerning failure investigations, but it was deleted at the direction of DTSA from the final version.

(9) On January 24, 1996, the Department approved and released to SS/L munitions license no. 653324, which authorized SS/L's launch from the PRC of another satellite known as "APSTAR IIR" under the same terms and conditions as set forth for INTELSAT 708. This license also expressly rejected a request from SS/L for approval to participate on a contingency basis in launch failure investigation and instructed SS/L that: "Any technical discussions related to launch failure or investigation must be addressed in a separate license."

(10) On February 15, 1996, the PRC's Long March 3B rocket ("LM 3B") crashed during a failed attempt to launch the INTELSAT 708 satellite manufactured by SS/L.

(11) On February 22, 1996, the Department approved and released to SS/L munitions license no. 651982, which authorized SS/L's launch from the PRC of still another satellite known as "Mabuhay" under the same terms and conditions as set forth for INTELSAT 708. Once again, as with the Apstar IIR, this license expressly rejected a

request from SS/L for approval to participate on a contingency basis in launch failure investigation and again instructed SS/L that: "Any technical discussions related to launch failure or investigation must be addressed in a separate license."

(12) Notwithstanding the established prohibitions and restrictions contained in the U.S.-PRC bilateral agreement, which formed an essential basis for the launch of all U.S. manufactured satellites from the PRC, and notwithstanding the explicit incorporation of these prohibitions and restrictions in SS/L's munitions licenses for the INTEL SAT 708 project (as well as in other munitions licenses approved and released to SS/L contemporaneous with SS/L's unlawful conduct described herein), SS/L took numerous actions, some of which are described herein, in violation of such prohibitions. Notably, SS/L decided to form and direct a group of worldwide industrial experts from the aerospace industry, known as the Independent Review Committee ("IRC"), which would be convened by the China Aerospace Corporation ("CASC") and funded by China Great Wall Industry Corporation ("CGWIC"). The IRC's working papers, documents and reports were to be held in strict confidentiality for the purpose of investigating the failure of the LM 3B, making assessments of the most probable causes, isolating those causes from the then upcoming PRC launch of another US satellite known as APSTAR-1A (manufactured by Hughes Electronics), and recommending corrective action to CASC and CGWIC in order to prevent any future failures of the Long March rocket.

(13) An April 25, 1996, letter³ from the SS/L Vice President who would chair the IRC to the chairman of CASC described the IRC's role and purposes:

"Launching satellites is a very difficult process, every element has to work just right. . . . I led the team that finally solved the momentum wheel anomaly (in Superbird's on orbit failure). . . . At SS/L, we decided to use the failure. . . to reevaluate our entire design and process philosophy. . . I know that getting the APSTAR 1A launched is very important to APSTAR and to the China Great Wall Industry Corporation. The IRC will do everything in its power to complete the review and recommendations in a timely manner. Equally important, I believe, is the task of using this failure as an opportunity to ensure that the Long March launch vehicles have the best reliable record in the future.

³ Letter dated April 25, 1996, from Wah L. Lim, Senior Vice President and General Manager for Engineering and Manufacturing, SS/L to Liu Jiyuan, Chairman, China Aerospace Corporation.

Even if that means your engineers and CGWIC takes (sic) a little time to implement several phases of improvements over time, I believe it is worth it. We, at Space Systems/Loral would like China Great Wall to be a strong supplier of launch services and we will do everything in our power to help you."⁴

(14) At no time did SS/L seek or receive a license or other written approval concerning the conduct of the IRC or the international experts who comprised its membership from the Department's Office of Defense Trade Controls as required by Section 38 of the Act and relevant provisions of the Regulations. Such approval would not, of course, have been forthcoming in view of the established legally binding prohibition in the 1993 (and predecessor) US-PRC agreement and as reflected in explicit denials by the Departments of State and Defense, noted above, of SS/L's repeated requests to participate in analysis of PRC launch failures.

(15) During pre-launch fit check and separation tests for the INTELSAT 708, SS/L became concerned that the lubricant China used on the stage separation system for the LM 3B rocket could contaminate the satellite and supplied Chinese authorities with a U.S.-origin replacement lubricant, the name and composition of which SS/L was enjoined by the DTSA monitor not to reveal to China.⁵ At China's request, SS/L experts evaluated the material compatibility of the U.S.-origin lubricant with the aluminum alloy and special steel used by China for the LM 3B separation system, but failed to disclose this assistance to the DTSA monitor at the time or at any time thereafter to the U.S. Government.

(16) Prior to the approval on January 24, 1996 of its munitions license no. 653324 for the export of technical data and launch of the APSTAR IIR satellite, SS/L participated in a variety of technical discussions with Chinese authorities and the Asia-Pacific Telecommunications Satellite company ("APT"), including a preliminary design review (August 29-30, 1995), two critical design reviews (November 14 and December 5-7, 1995) and a preliminary launch planning review (December 12-13, 1995).

⁴ Loral Space & Communications and SS/L each had entered into agreements with CASC providing for long term cooperation in various aerospace sectors, including cooperation in the potential use of launch services, under which Loral intended to procure up to ten launch vehicles for its Globalstar satellites.

⁵ However, the name of the lubricant was revealed to Chinese authorities, inadvertently according to SS/L.

(17) Prior to the approval on February 20, 1998, of two technical assistance agreements concerning the export of technical data and launch of the CHINASAT 8 satellite, SS/L participated in three technical meetings with Chinese authorities: a CHINASAT 8 program readiness review (March 24-26, 1997); a CHINASAT 8/Long March 3B program status review (June 18-19, 1997), and a CHINASAT 8 critical design review (October 20-22, 1997).

(18) During the period covered by the charges, SS/L violated the express terms and conditions of its munitions license governing the INTELSTAT 708 project, and exported or caused the unlawful export of defense services to the PRC.

(19) Defense service means "(t)he furnishing of assistance (including training) to foreign persons, whether in the United States or abroad in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing or use of defense articles." (22 C.F.R. § 120.9)

(20) A technical assistance agreement approved by the Department of State, Office of Defense Trade Controls is required to furnish a defense service to a foreign person where the information relied upon by a U.S. person in furnishing a defense service is controlled, is in the public domain or is otherwise exempt from licensing requirements. (22 C.F.R. § 124.1(a))

(21) Defense articles include those articles so designated pursuant to sections 38 and 47(7) of the Act and enumerated in 22 C.F.R. § 121.1 as the United States Munitions List ("USML").

(22) Category IV of the USML designates as "defense articles" launch vehicles and rockets.

THE CHARGES

CHARGES 1-2

SS/L violated the express terms and conditions of its munitions license no. 544724 when it attended a briefing by the PRC on the LM 3B failure investigation in Beijing April

10-12, 1996, and also toured PRC test facilities, during which SS/L failed to have a DoD monitor present for either event.

CHARGE 3

SS/L violated 22 C.F.R. § 126.1(e) on or about April 14, 1996, when it agreed to the IRC charter proposed by CGWIC, which charter itself contemplated the transfer of defense services to a country referred to in § 126.1, without first obtaining a license or written approval from the Office of Defense Trade Controls.

CHARGE 4

SS/L violated the express terms and conditions of its munitions license no. 544724 when it attended a briefing by the PRC on the LM 3B failure investigation in Beijing April 15-16, while failing to have a DoD monitor present.

CHARGE 5

SS/L violated the express terms and conditions of its munitions license no. 544724 when it convened the first IRC meeting in Palo Alto April 22-24, 1996, while failing to have a DoD monitor present.

CHARGES 6-29

SS/L violated: (i) the express terms and conditions of its munitions license 544724 prohibiting any assistance whatsoever to PRC launch vehicles or facilities; and also (ii) 22 C.F.R. § 127.1, during the first IRC meeting (April 22-24, 1996, Palo Alto), when SS/L engaged in the following activities. SS/L together with other international experts who comprised the IRC delineated for CGWIC, CALT and other PRC organizations twenty-four (24) areas for further technical investigation and/or analysis upon concluding that simulation tests and other analysis presented to the IRC by CGWIC and CALT could not explain fully why, where or when the Long March rocket's inertial measurement unit (IMU)⁶ failed. Its delineation of the 24 areas was for the purpose of identifying critical details of the failure mode then unanswered. Additionally, the delineation was also for the

⁶ A four axis stabilized platform system with gyro and accelerometer components located on the innermost axis that provides attitude and heading reference.

purpose of identifying corrective action necessary by CGWIC, CASC and CALT based on the most likely cause(s) of the LM-3B failure and the isolation of these causes from the PRC's LM-3 rocket to be used for the, then, upcoming launch of APSTAR 1A manufactured by Hughes Electronics.⁷

CHARGE 30

SS/L violated the express terms and conditions of its munitions license no. 544724 prohibiting any assistance whatsoever to PRC launch vehicles or facilities and 22 C.F.R. § 127.1 when, on or about April 25, 1996, it exported via facsimile to CGWIC a written summary of the first IRC meeting and of the twenty-four areas recommended by the IRC for further technical investigation and/or analysis.

CHARGES 31-34

SS/L violated the express terms and conditions of its munitions license no. 544724 when it convened the second IRC meeting in Beijing on April 30-May 1, 1996, two so-called "splinter" meetings on May 1 (one involving those IRC members most expert in guidance systems and another to discuss differences between the LM 3 and LM 3B rockets), and also toured IMU assembly and test facilities, while failing to have a DoD monitor present for any of these events.

CHARGES 35-45

SS/L violated the express terms and conditions of its munitions license no. 544724 prohibiting any assistance whatsoever to PRC launch vehicles or facilities, and violated 22 C.F.R. § 127.1 when, during the second IRC meeting (April 30-May 1, 1996, Beijing), and after reviewing extensive documentation provided by Chinese authorities and interviewing or hearing presentations from over one hundred Chinese engineers and technical personnel, the IRC furnished unauthorized defense services in eleven areas.⁸

⁷ These 24 areas set forth in the form of detailed technical questions and/or guidance or recommendations for specific follow up analysis covered a range of potential factors associated with design, operation, manufacturing, testing and performance of PRC rockets, including the LM-3B, LM-3 and LM-2E.

⁸ Specifically, the IRC: (1) concurred that the most likely failure mode was the inertial platform; (2) urged the Chinese to perform additional hardware in the loop simulation testing or (3) or computer mathematical analyses to simulate the complete failure cycle; recommended (4) additional acceptance test procedure, (5) design for producibility, (6) reliability operation, and (7) better IMU assembly procedure; (8) validated that the LM-3 and LM-3B inertial platforms are

CHARGES 46-51

SS/L violated the express terms and conditions of its munitions license no. 544724 prohibiting any assistance whatsoever to PRC launch vehicles or facilities, and violated 22 C.F.R. § 127.1 when it furnished unauthorized defense services to CGWIC by transferring via facsimile on or about May 7, 1996, a draft of the Preliminary IRC Report, containing four short term recommendations⁹ and two long term recommendations¹⁰ concerning testing and design of Long March inertial platforms.

CHARGES 52-59

SS/L repeated the violations in Charges 46-51 on or about May 10, 1996, when it transferred via facsimile to CGWIC the final Preliminary IRC Report, and furnished additional unauthorized defense services when it also urged an implementation plan for improved range safety in the areas of operation safety, launch safety and personnel safety based on action items from the first IRC meeting and strengthened its recommendation that the Chinese improve redundancy in future IMUs to avoid single point failure.

CHARGE 60

SS/L violated the provisions of 22 C.F.R. § 127.1 when on or about May 13, 1996, it exported by means of facsimile a copy of the final Preliminary IRC Report to a U.S. representative of the insurance industry in Beijing.

separate and distinct owing to the LM-3's different inner gimbals drive circuit and redundancy by design; and specified additional test/analysis verification in three areas (9-11): continued study by the Chinese of the telemetered 15Hz resonant frequency (to include interviews of technical personnel who installed the IMU); simulation testing or simulation analysis of the failed soldering joint in the LM 3B IMU; and drawing up of a detailed list of IMUs of the LM 3A, 3B and 3C (to include their production, assembly, test locations and mission assignments).

⁹ An explanation of total flight behavior through a mathematical numerical solution followed by a hardware in the loop simulation test; study of the detailed design of the motor and wiring; higher quality control and quality standards in manufacturing process; and re-examination of the environmental test plan for the avionics equipment,

¹⁰ Strengthening of quality control philosophy and practice in fabrication, assembly and testing of the IMU, to include training of personnel in cleanliness and careful test handling; and, design consideration of avoiding single point (or path) failure – and not merely performance improvement – in the advanced design from the LM-3 IMU to the LM-3A/3B/3C IMU.

CHARGE 61

SS/L violated the express terms and conditions of its munitions license no. 544724 prohibiting any assistance whatsoever to PRC launch vehicles or facilities, and violated 22 C.F.R. § 127.1 when it furnished an unauthorized evaluation to CGWIC of the aluminum alloy and special steel used in the LM 3B stage separation system in order to establish material compatibility with a lubricant SS/L had earlier furnished to Chinese authorities.

CHARGE 62

SS/L violated the provisions of 22 C.F.R. § 127.2 concerning misrepresentation and omission of facts when in its October 5, 1995, submission of a munitions license application in support of the APSTAR IIR satellite program, it failed to reveal that it had already held a series of technical interchanges about the satellite with Chinese authorities, the facts of which were directly material to the U.S. Government's consideration of suitable technology transfer controls for the program.

CHARGES 63-64

SS/L violated the provisions of 22 C.F.R. § 127.2 concerning misrepresentation and omission of material facts when in its May 5 and May 16, 1997, submissions of technical assistance agreements for the CHINASAT 8 satellite program, it failed to reveal that it had already held a series of technical interchanges about the satellite with Chinese authorities, the facts of which were directly material to the U.S. Government's consideration of suitable technology transfer controls for the program.

ADMINISTRATIVE PROCEEDINGS

Pursuant to 22 C.F.R. § 128 administrative proceedings are instituted against Space Systems/Loral, Inc. for the purpose of obtaining an Order imposing civil administrative sanctions that may include the imposition of debarment or civil penalties. The Assistant Secretary for Political Military Affairs shall determine the appropriate period of debarment, which shall generally be for a period of three years in accordance with § 127.7. Civil penalties, not to

exceed \$500,000 per violation, may be imposed in accordance with § 127.10.

A respondent has certain rights in such proceedings as described in § 128, a copy of which I am enclosing. Furthermore, pursuant to § 128.11 cases may be settled through consent agreements, including prior to service of a charging letter. Please be advised that the U.S. Government is free to pursue civil, administrative, and/or criminal enforcement for violations of the Arms Export Control Act and the International Traffic in Arms Regulations. The Department of State's decision to pursue one type of enforcement action does not preclude it or any other department or agency of the United States from pursuing another type of enforcement action.

Sincerely,

William Lowell
Director

Enclosures